

Construction of A Pediatrics Dysphagia Screening Tool (PDSQ)

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Introduction

- Dysphagia is difficulty in swallowing that involves impairment in the safety and efficiency of the swallow¹. In Dysphagia literature, the terms safety and efficiency commonly describe the Pharyngeal phase. In the Pediatric Dysphagia population, in addition to Pharyngeal Pathology, Oral Preparatory and Oral-Voluntary stages are commonly dysfunctional². The currently available screening tools for Pediatric Dysphagia have a variable degree of accuracy, thus warranting further work to create more screening options for clinicians.
- An ideal screening tool would include items assessing all phases of swallowing in the pediatric population. The tool should be validated against an instrumental assessment. Time lapsing between screening and validating should be minimal. The tool application has to be easy and rapid. Additionally, the study population has to be diverse to make the tool applicable as a broad spectrum screening option.

Methods

- This study included sixty children (2-18Y) presented to the Phoniatics units of Cairo University and Fayoum University in Egypt. They all reported complaints other than Dysphagia and were diagnosed with a primary disorder carrying an additional risk of having Dysfunctional swallowing. All participants received the Pediatric Dysphagia Screening Questionnaire (PDSQ).

Yes or no Pediatric Dysphagia Screening Questionnaire PDSQ

Questions	Yes	No
1- Is it difficult to bite or chew?	1	0
2- Does the consistency of food greatly affect the feeding and swallowing act?	1	0
3- Is it difficult to sip from a cup?	1	0
4- Is it difficult to use a straw?	1	0
5- Is there drooling of saliva?	1	0
6- Is there frequent cough during or after swallowing?	1	0
7- Does feeding and swallowing take extra time (>30 min.)?	1	0
8- Is there a preferable posture facilitating feeding and swallowing?	1	0
9- Does eating/feeding cause embarrassment outside the home setting?	1	0
10- Is it hard for anyone other than the caretaker to feed the child?	1	0
11- Is there loss of weight or failure to gain weight?	1	0
12- Is there frequent chest infection?	1	0
Total score	Out of 12	

Analysis & Validation

- We performed the Receive Operating Characteristics curve to determine the discrimination value of the total questionnaire scores for:
 - Dysphagia as diagnosed with Clinical feeding observation on the same day as applying the PDSQ.
 - Penetration & / or Aspiration, as diagnosed by FEES on the same day as applying the PDSQ.



Reliability

- Reliability of clinical Feeding observation was achieved by consensus between two clinicians on every criterion.
- Blinded Intra-rater reliability for FEES rating Penetration & / or Aspiration was ICC= 1.0.

Results

Cut off point of the PDSQ to predict Dysphagia in comparison with:		Sensitivity %	Specificity %
Clinical Evaluation	2.5	97.9	100
Penetration &/or Aspiration in FEES	6.5	85.2	81.8
Penetration only in FEES	6.5	83.3	80.6
Aspiration only in FEES	8.50	84.2	85.2

Conclusion: The analysis shows that the tool could be a potentially valuable contribution to clinical practice. The broadness of the study population and the simplicity of using the tool advocate for its value as a possible screening alternative in children with Dysphagia.

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